

**What is claimed is:**

1. A client apparatus comprising:

a cache memory which accumulates information externally provided;

an accumulation judgment portion which judges  
5 whether or not the information to be externally provided is accumulated in said cache memory;

a request portion which requests acquirement of information when said accumulation judgment portion judges that the information to be externally provided  
10 is not accumulated in said cache memory; and

an information processor which processes either one of the information accumulated in said cache memory and the information externally provided in response to the request from said request portion.

2. The client apparatus according to claim 1, further comprising:

a storage judgment portion which judges whether or not the information externally provided can be  
5 stored in said cache memory;

an information reduction portion which reduces an amount of the information accumulated in said cache memory based on attribute information composed of preference information of a user and profile  
10 information indicative of a process ability of said client apparatus when said storage judgment portion

judges that the information externally provided can not be stored in said cache memory; and

a control portion which controls said cache  
15 memory such that the information externally provided in response to the request from said request portion is stored after the amount of the information is reduced by said information reduction portion.

3. An information providing system comprising:

an information source server which provides information in response to a request;

a client apparatus; and

5 a data communication network which connects said client apparatus to said information source server,

wherein said client apparatus includes:

a cache memory which accumulates the information provided by said information source server;

10 an accumulation judgment portion which judges whether or not the information to be provided by said information source server is accumulated in said cache memory;

a request portion which requests acquirement of  
15 the information to said information source server through said data communication network when said accumulation judgment portion judges that the information to be provided by said information source server is not accumulated; and

20           an information processor processes either one of  
the information accumulated in said cache memory and  
the information provided by said information source  
server in response to the request from said request  
portion.

4.       The information providing system according to  
claim 3, further includes:

          a storage judgment portion which judges whether  
or not the information provided by said information  
5 source server can be stored in said cache memory;

          an information reduction portion which reduces  
the amount of the information accumulated in said  
cache memory based on attribute information composed  
of preference information of a user and profile  
10 information indicative of a process ability of said  
client apparatus when said storage judgment portion  
judges that the information provided by said  
information source server can not be stored in said  
cache memory; and

15       a control portion which controls said cache  
memory such that the information provided by said  
information source server in response to the request  
from said request portion is stored after the amount  
of the information is reduced by said information  
20 reduction portion.

5. The information providing system according to claim 4, wherein said data communication network comprises:

a gateway apparatus which is connected to said client apparatus through a first data communication network and connected to said information source server through a second data communication network,

wherein said gateway apparatus includes:

a second request portion which requests  
10 acquirement of the information to said information source server through said second data communication network with said attribute information and communication attribute information indicative of communication abilities of said first data  
15 communication network and said second data communication network when the request of said request portion of said client apparatus is received through said first data communication network;

a second cache memory which accumulates  
20 the information provided by said information source server in response to the request from said second request portion; and

a transfer portion which transfers the information accumulated in said second cache memory to  
25 said client apparatus through said first data communication network based on said attribute information and said communication attribute

information.

6. The information providing system according to claim 5, wherein said information source server provides the information to said gateway apparatus based on said attribute information and said communication attribute information in response to the request from said second request portion.

7. The information providing system according to claim 6, wherein said gateway apparatus provides the information to said client apparatus based on said attribute information and said communication attribute information in response to the request from said request portion.

8. The information providing system according to claims 7, wherein said client apparatus further includes an attribute information change portion in which at least one of said attribute information and said communication attribute information is dynamically changed.

9. The information providing system according to claims 8, wherein said information reduction portion removes the information having a low priority from said cache memory, wherein the priority is determined

5 based on said attribute information.

10. The information providing system according to claims 9, wherein said information reduction portion compresses the information stored in said cache memory based on said attribute information.

11. The information providing system according to claims 10, wherein the information provided by said information source server includes menu data for selecting an item and is linked to other information  
5 corresponding to other menu data, the other information being provided by said information source server based on the selected item, and

said control portion controls said cache memory such that a remaining capacity of said cache memory is  
10 increased by changing the link generated between the menu data and the other menu data, every time one of the menu data and the other menu data is stored in said cache memory.

12. The information providing system according to claims 11, wherein said attribute information used in said client apparatus is prepared for each predetermined usage tendency.

13. The information providing system according to

claim 12, wherein said attribute information used in  
said client apparatus can be changed into other  
attribute information having another predetermined  
5 usage tendency.

14. An information providing method comprising:

(1) providing an information source server and a  
client apparatus;

(2) accumulating information provided by said  
5 information source server in a cache memory;

(3) judging whether or not the information to be  
provided by said information source server is  
accumulated in said cache memory;

(4) requesting acquirement of the information to  
10 said information source server when said judging step  
(3) judges that the information to be provided by said  
information source server is not accumulated in said  
cache memory; and

(5) processing either one of the information  
15 accumulated in said cache memory and the information  
provided by said information source server in response  
to the request.

15. The information providing method according to  
claim 14, further comprising:

(6) judging whether or not the information  
provided by said information source server can be

5 stored in said cache memory;

(7) reducing the amount of the information accumulated in said cache memory based on attribute information composed of preference information of a user and profile information indicative of a process  
10 ability of said client apparatus when said judging step (6) judges that the information provided by said information source server can not be stored in said cache memory; and

(8) controlling said cache memory such that the  
15 information provided by said information source server in response to the request is stored after the amount of the information is reduced by said reducing step.

16. The information providing method according to claim 15, further comprising:

(9) providing a gateway apparatus which is connected to said client apparatus through a first  
5 data communication network and connected to said information source server through a second data communication network;

(10) requesting acquirement of the information to said information source server through said second  
10 data communication network with said attribute information and communication attribute information indicative of communication abilities of said first data communication network and said second data



communication network when the request of said  
15 requesting step (4) is received through said first  
data communication network;

(11) accumulating the information provided by  
said information source server into a second cache  
memory in response to the request in said requesting  
20 step (10) ; and

(12) transferring the information accumulated in  
said second cache memory to said client apparatus  
through said first data communication network based on  
said attribute information and said communication  
25 attribute information.

17. The information providing method according to  
claim 16, wherein said information source server  
provides the information to said gateway apparatus  
based on said attribute information and said  
5 communication attribute information in response to the  
request in said requesting step (10).

18. The information providing method according to  
claim 17, wherein said gateway apparatus provides the  
information to said client apparatus based on said  
attribute information and said communication attribute  
5 information in response to the request in said  
requesting step (4).

19. The information providing method according to claims 18, wherein said reducing step (7) removes the information having a low priority from said cache memory, wherein the priority is determined based on  
5 said attribute information.

20. The information providing method according to claims 19, wherein said reducing step (7) compresses the information stored in said cache memory based on said attribute information.